Supplementary Materials

Kanamycin Aptamer SELEX Coming to a Full Loop

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Table S1: Literature reported kanamycin DNA aptamers and their K_d determination.

Aptamer	K_d	Method	Buffer Conditions	Temperature
Ky2 [1] (21-mer, truncated from Kana2)	78.8 nM	FAM-aptamer adsorption to kanamycin-attached magnetic beads	20 mM Tris-HCl, 50 mM NaCl, 5 mM KCl, 5 mM $MgCl_2$, pH 8.0	Room temperature
Ky2 [2] (21-mer, truncated from Kana2)	No detectable binding	ThT fluorescence and ITC	20 mM Tris-HCl, 50 mM NaCl, 5 mM KCl, 5 mM $MgCl_2$, pH 8.0	Room temperature; fluorescence; 25 ℃ for ITC
Kana2 [3] (fulllength 90-nt)	No detectable binding	ITC	20 mM Tris-Acetate, 50 mM NaAcetate, 5 mM KCl, 5 mM $Mg(CHC_3OO)_2$, pH 8.0	25 ℃
RNA-converted DNA aptamer[4]	**~562 µM**	Electrochemical E-AB sensor, square-wave voltammetry	20 mM Tris, 100 mM NaCl, 5 mM $MgCl_2$ pH 7.5	Room temperature
K16-1 [5]	**340 ± 70 µM**	Microscale thermophoresis (MST)	100 mM NaCl, 20 mM Tris-HCl, 2 mM $MgCl_2$, 5 mM KCl, 1 mM $CaCl_2$, pH 7.6	25 ℃
13_82 [6] (original, 98-nt)	**5.1 µM**	Elution-based binding assay	100 mM NaCl, 20 mM Tris-HCl, 2 mM $MgCl_2$, 5 mM KCl, 1 mM $CaCl_2$, pH 7.6	21 ℃
s12_13_82m1 [3] (44-nt, first-round truncation)	**96 ± 8.7 nM**	Isothermal titration calorimetry (ITC)	20 mM Tris-Acetate, 50 mM NaAcetate, 3 mM $Mg(CH_3COO)_2$ pH 7.4	25 ℃

s12_13_82m7 [3] (13_82 truncated series, 42-nt)	**109 ± 14.9 nM**	ITC	20 mM Tris-Acetate, 50 mM NaAcetate, 3 mM $Mg(CH_3COO)_2$, pH 7.4	25 ℃
KAN8-1 [7]	**51 ± 5 nM**	ITC	20 mM HEPES, 150 mM NaCl, 2 mM $MgCl_2$, pH 7.5	25 ℃

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